CLAIMS

1. A method for reducing interference between a first frequency-hopping radio communications network and a second frequency-hopping radio communications network, comprising:

predicting a possible collision between a transmission at a first frequency in the first frequency-hopping radio communication network and a transmission at the first frequency in the second frequency-hopping radio communication network; and

controlling transmission in one of the first frequency-hopping radio communications network and the second frequency-hopping radio communications network to avoid the collision.

2. A method as claimed in claim 1, wherein the step of predicting occurs at a Master of the first frequency-hopping radio communications network and comprises:

comparing the first frequency with calculated frequencies that are expected to be used for transmission in the second frequency-hopping radio communication network at the same time as the transmission at the first frequency in the first frequency-hopping radio communication network.

3. A method as claimed in claim 2, wherein the calculated frequencies are calculated at the Master of the first frequency-hopping radio communications network by using the address of the Master of the second frequency-hopping radio communication network and a knowledge of the timing of the second frequency-hopping radio communication network.

4. A method as claimed in claim 3, wherein the Master of the first frequency-hopping radio communications network emulates the clock of the Master device of the second frequency-hopping radio communication network.

5. A method as claimed in claim 1, wherein the step of predicting occurs at a Master of the first frequency-hopping radio communications network and comprises:

calculating a frequency hopping schedule for the second frequency-hopping radio communication network;

determining from the calculated frequency hopping schedule three consecutive frequencies at least one of which will be used for transmission in the second frequency-hopping radio communication network at the same time as the transmission at the first frequency in the first frequency-hopping radio communication network; and

comparing the first frequency with the determined frequencies.

6. A method as claimed in claim 5, wherein the frequency hopping schedule is calculated using an address of a Master device of the second frequency-hopping radio communication network.

7. A method as claimed in claim 1, wherein the step of controlling transmission in one of the first frequency-hopping radio communications network and the second frequency-hopping radio communications network comprises temporarily silencing one or other of the first and second frequency-hopping radio networks.

8. A method as claimed in claim 1, wherein the step of controlling transmission in one of the first frequency-hopping radio communications network and the second frequency-hopping radio communications network comprises adapting the frequency of transmission of one or other of the first and second frequency-hopping radio networks.

9. A method as claimed in claim 1, further comprising selecting which of the first and second frequency-hopping networks is to have its transmission controlled using a predetermined criterion shared between the first and second frequency-hopping networks.

10. A method as claimed in claim 9, wherein the predetermined criterion involves an address of a Master of the first network and an address of a Master of the second network.

11. A method as claimed in claim 1, wherein the first frequency-hopping radio communication network is a Bluetooth piconet and the second frequency-hopping radio communication network is a Bluetooth piconet.

12. A method as claimed in claim 11, wherein the first frequency-hopping radio communication network and the second frequency-hopping radio communication network are part of a Bluetooth scatternet,

13. A method as claimed in claim 12, wherein the first frequency-hopping radio communication network and the second frequency-hopping radio communication network are part of a Bluetooth scatternet and share a common interconnecting node.

14. A method as claimed in claim 1 wherein the first frequency-hopping radio communication network and the second frequency-hopping radio communication network are ad-hoc networks that include mobile nodes.

15. A method as claimed in claim 1 wherein the first frequency-hopping radio communication network and the second frequency-hopping radio communication network are not bit synchronized.

16. A method for reducing interference between a first frequency-hopping radio communications network and a second frequency-hopping radio communications network, comprising at a Master of the first frequency-hopping radio communications network:

predicting a possible collision between a packet to be transmitted at a first time at a first frequency in the first frequency-hopping radio communication

network and a transmission at the first frequency in the second frequency-hopping radio communication network; and

controlling transmission in the first frequency-hopping radio communications network to avoid the collision.

17. A method as claimed in claim 16, wherein before the step of controlling transmission, the Master determines whether or not to control transmission using a predetermined criterion shared between the first and second frequency-hopping networks.

18. A method as claimed in claim 16, wherein controlling transmission in the first frequency-hopping radio communications network involves delaying the transmission of the first packet

19. A method as claimed in claim 16, wherein controlling transmission in the first frequency-hopping radio communications network involves preventing transmission at the first time by the Master of the first frequency-hopping radio communications network.

20. A method as claimed in claim 16, wherein controlling transmission in the first frequency-hopping radio communications network involves adapting the frequency of transmission of the first packet at the first time.

21. A method for reducing interference in a first piconet, comprising:

calculating whether one or more of the future transmissions within the first piconet can collide with transmissions within piconets neighboring the first piconet; and

determining whether to modify a future transmission within the first piconet.

22. A method as claimed in claim 21, wherein the step of calculating involves comparing the frequency of the a future transmission within the first piconet

with the frequencies of a series of potentially overlapping transmissions from each neighboring piconet.

23. A method for controlling the operation of a Master transceiver of a first frequency-hopping radio communications network, comprising:

determining the duration for which transmissions at a single frequency can occur in the first frequency-hopping network without a potential collision with transmissions at that frequency in neighboring frequency-hopping networks; and

controlling multi-slot communication in the first frequency-hopping radio communications network in dependence upon the determination.

24. A method as claimed in claim 23, wherein the sum of the duration of a transmission at the single frequency by the Master and the duration of a transmission at the single frequency by the Slave in response, do not exceed the determined duration.

25. A method as claimed in claim 23, wherein the Master indicates to the Slave in a transmission at the single frequency the maximum duration of a reply by the Slave.

26. A method as claimed in claim 23, wherein controlling multi-slot communication in the first frequency-hopping radio communications network comprises allocating at least one multi-slot communication for use in the duration for which transmissions at a single frequency can occur without a potential collision.

27. A method as claimed in claim 23, wherein the step of determining comprises identifying at least one possible future collision and deciding whether the Master modifies its transmission to avoid that collision.

28. A method as claimed in claim 23, wherein the step of determining comprises identifying the type of collisions for which the Master modifies its transmission and identifying a potential future collision of that type.

29. A method for controlling the operation of a Master transceiver of a first frequency-hopping radio communications network, comprising:
determining when a future modification to a transmission from the Master transceiver is required; and
controlling multi-slot communication in the first frequency-hopping radio communications network in dependence upon the determination

30. A method as claimed in claim 29, wherein the future modification is a modification to a frequency-hopping schedule that predetermines a frequency of a transmission according to the time at which the transmission starts.

31. A method as claimed in claim 29, wherein the future modification avoids a collision between a transmission in a first frequency-hopping radio communications network and a transmission within a second frequency-hopping radio communications network.